

## Wood vs. Cellular PVC – Is There a Difference?

Today many consumers are looking for low-maintenance materials that can weather the outdoors. The latest in building materials that incorporates style yet provides low-maintenance is cellular PVC. Cellular PVC's design versatility coupled with its incredible durability and low maintenance makes it the world's most durable and attractive wood alternative. It looks and feels like real wood but its more cost-effective since it doesn't require all the on-going maintenance costs of sanding and staining or painting wood as well as the eventual replacement cost from rot and insect infestation.

Wood left exposed to the elements will split, warp, crack and gray. The two biggest contributors of these problems are sun and rain. Rain causes the lumber to absorb water and the sun causes it to dry out. The continuous moisture cycling combined with the expansion and contraction damages the wood in a very short period of time after installation. This can be exasperating to both the homeowner and the builder.

Most homeowners think that pressure-treated wood is protected from the elements, but this is not the case. The wood is treated to prevent against rotting and termite damage but it doesn't prevent damage from the effects of weather. Wood that isn't protected will eventually look horrendous and cost a significant amount of money to repair.

Painted wood requires considerable on-going maintenance. The moisture cycling caused by rain and sun eventually breaks down the paint causing it to crack and peel off the wood. Cellular PVC products do not absorb moisture, so they are not subject to the same moisture cycling that causes paint to peel off wood due to the impervious nature of the product. As a result paints applied to cellular PVC last longer than paint on wood due to the absence of moisture in the cellular PVC.

### What Is Cellular PVC?

It is a solid white extruded plastic with the working characteristics of wood. During the extrusion process, the product expands, creating a lightweight, rigid, cellular PVC material with a density similar to pine. Cellular PVC possesses a number of basic properties, such as:

- Easy to paint, print, laminate, route, saw, rivet, screw, engrave
- No splitting, rotting, warping, swelling, delamination
- Impervious to moisture
- Insect resistant
- Mold/mildew resistant, and

- Good resistance to weathering
- Closed-cell structure
- Ease of fabrication
- Can be thermoformed
- Lightweight and high-strength

You can machine, fabricate and work with cellular PVC in much of the same way as you do wood. Fastening is easier than wood, and nails can be driven extremely close to the edge without splitting. Unlike wood, which swells or shrinks with changes in moisture content, cellular PVC expands linearly due to changes in temperature.

Cellular PVC does not require painting for protection, but it can be painted to achieve a custom appearance. Recommended paints include 100 percent latex acrylic or 100 percent latex acrylic with a urethane additive. The light reflective value (LRV) of the paint should be greater than or equal to 55 units to avoid excessive heat build-up on the product. Note that paint applied to cellular PVC requires longer dry time due to the impervious nature of the product, but paints applied to cellular PVC last longer than paint on wood due to the absence of moisture in the cellular PVC.

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